

The University of Chicago

THE FEASIBILITY OF
6-4-4 REORGANIZATION IN CERTAIN
IOWA SCHOOL SYSTEMS WITH
JUNIOR COLLEGES

A PART OF A DISSERTATION SUBMITTED TO THE FACULTY
OF THE DIVISION OF THE SOCIAL SCIENCES IN CANDIDACY
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF EDUCATION
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By
ROBERT WHITE, JR.

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FEASIBILITY OF 6-4-4 REORGANIZATION IN SCHOOL SYSTEMS WITH JUNIOR COLLEGES

I. RELATION OF THE FACULTY TO REORGANIZATION

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THE PROBLEM

THE extent of association between the high school and the junior college is a matter of the utmost importance to students of the junior-college organization. These two units of the upper secondary-school field operate with varying degrees of integration, ranging from complete independence of both to complete integration into one unit. This culminating integration, commonly known as the 6-4-4 plan, is the goal of much planning in the junior-college field.

The material in this article is based on a study made in 1944 of the feasibility of 6-4-4 reorganization in a group of ten Iowa school systems maintaining junior colleges. These ten situations included the three largest public junior colleges in the state (Burlington, Fort Dodge, and Mason City); five in a middle group (Boone, Creston, Centerville, Marshalltown, and Muscatine); and two (Albia and Washington) which had temporarily suspended under pressure of war conditions. The study attempted to determine the extent of high-school and

junior-college integration, the prospect of further integration or of a culminating 6-4-4 reorganization, and the feasibility of such reorganization from the standpoint of the evidence presented.

CLASSIFICATION OF THE JUNIOR COLLEGES

The major portion of the study dealt with these questions in six areas of organization: administration, housing, faculty, guidance, curriculum, and extra-curriculum. Sets of rating scales were constructed in each of a number of subdivisions within each of these areas which indicated the extent of integration found in the various functions. By the use of this device it was found possible to classify these ten junior-college situations into three groupings based on the degree of integration between the high school and the junior college. The first of these was that group exhibiting a high degree of association and was made up of Burlington, Fort Dodge, Marshalltown, and Mason City. The second group, or a moder-

ate-association group, comprised Albia, Boone, Creston, and Washington. Finally, there was a third group, comprising Centerville and Muscatine, in which the junior colleges operated under nearly separate procedures in most functions. This group was designated as the "independent group." This classification was based on more than housing and administrative organization. No junior college exhibited either complete integration or complete separation. This three-group classification was used throughout the study.

QUESTIONS TO BE ANSWERED

An understanding of the relationship of the faculty to a possible 6-4-4 reorganization hinges on four questions: (1) What is the present situation so far as high-school and junior-college association is concerned? (2) What effect does the degree of association have upon the excellence of the faculty situation? (3) What changes in faculty organization are implied under a 6-4-4 reorganization? (4) What is the availability of the present faculty to staff the expanded four-year junior college under a 6-4-4 reorganization?

THE PRESENT SITUATION IN FACULTY ASSOCIATION

Features determining the extent of association between the high-school and junior-college levels in faculty organization include the method of selection, procedure of assignment to classes, supervision, faculty meetings, salaries, and the spread of teaching assignments between the two levels.

In all ten situations in this study, faculty members were employed by the board of education upon recommendation of the superintendent of schools. No difference was noted in the procedures of employing high-school and junior-college teachers.

The procedure of assignment to classes varied according to the administrative pattern employed. In five instances the high school and junior college were directly administered by the same officer. These systems were named "single-administration systems." In the other five, named "dual-administration systems," the two levels were administered separately, the junior college by the junior-college dean and the high school by the high-school principal. In the five single-administration schools, the one officer made the faculty assignments at both levels. With one exception, the dean and the principal assigned classes to the junior-college and to the high-school teachers, respectively. In the one exception the superintendent made the assignments for both levels. In the dual-administration schools, unless the teacher concerned taught exclusively at the junior-college level, the procedure of assigning classes required that the dean and the principal make allowances for each other's needs.

The officers responsible for supervision corresponded exactly to those responsible for making the assignments to classes. In the dual-administration situations the principal supervised only the high-school teachers and the junior-college dean su-

pervised the junior-college teachers. These systems reported no procedures for bridging this gap through the development of a common philosophy or through a procedure relating instructional methods at the two levels.

The faculties of the independent and the moderate-association junior colleges attended two separate faculty meetings unless a particular member taught exclusively at the junior-college level. He then attended only junior-college faculty meetings. The high-association junior colleges tended to maintain general faculty meetings, where common problems were discussed.

In general, the junior-college faculty members received higher salaries than did high-school teachers in the same systems. Three systems paid their junior-college teachers at least two hundred dollars more than they paid the high-school teachers; five paid junior-college teachers a premium of less than two hundred dollars; and two showed no difference, either on the schedules or in the actual median salaries paid. The average differential was \$139.50. No tendency in the amounts paid could be discerned when consideration was given to groups of schools or to average percentage of teaching time assigned to the junior-college level.

LEVEL AT WHICH JUNIOR-COLLEGE FACULTIES TEACH

In one type of assignment of classes, all the time of the junior-college teachers is utilized at the junior-

college level so far as possible, high-school assignments being used to fill in if it is impossible to complete the program with junior-college classes alone. This type of assignment is the desideratum of the independent junior college. In another type of assignment, junior-college classes are assigned to junior-college teachers on the basis of best preparation. This dual-level or vertical assignment of classes, in which high-school assignments are not looked upon as those to be avoided wherever possible, is typical of the genuinely associated or integrated high-school and junior-college faculties. The question of which type to employ is a critical one, especially when considered in connection with possible 6-4-4 reorganization and its accompanying implications.

To present relevant data, an effort was made to ascertain the teaching load and the academic preparation of every teacher in these ten junior colleges for the two school years 1940-41 and 1943-44. The formula then in use in Iowa for measuring the teaching load of junior-college faculty members was employed. Teaching assignments were determined from the programs supplied by the administrative officers of the schools. Academic preparation was secured from the official transcripts recorded in the office of the state superintendent of public instruction. The load of each instructor was determined and the percentage of the load assigned at the junior-college level was ascertained by using the formula men-

tioned. For each teacher, each subject taught in the junior college and in the high school was listed, along with the extent of training which had been acquired by the instructor in each subject taught. Usable records of training were found for eighty-eight of the total of ninety-eight teachers employed in 1940-41. Derived measures are shown in Table 1.

It will be seen that the data as organized in Table 1 fail to show con-

stead of on the three-group classification used in the whole study. This regrouping, as shown in Table 2, gives clearer implications. It is seen that, as the percentage of time assigned to the junior-college level increases for the average junior-college teacher, the number of graduate hours of credit per subject taught decreases.

Just as the tabulation of these data by the usual three-group classification was weakened by variation with-

TABLE 1
TEACHING TIME ASSIGNED TO JUNIOR COLLEGE IN 1940-41 AND PREPARATION FOR SUBJECTS TAUGHT FOR EIGHTY-EIGHT TEACHERS
IN THREE GROUPS OF JUNIOR COLLEGES

Junior-College Group	Number of Colleges	Average Percentage of Time in Junior College	Graduate Hours of Credit per Junior-College Subject Taught	All Hours of Credit per High-School Subject Taught	Total Load
High-association	4	64.4	26.1	53.5	16.0
Moderate-association	4	53.9	24.5	40.1	15.8
Independent	2	79.6	17.5	34.3	15.9
All colleges	10	63.6	23.7	42.1	15.9

sistent progression for the three groups, although in the independent junior colleges a significantly larger proportion of the teaching time is assigned to the junior-college level and in this group the average number of graduate hours of credit per subject taught is the smallest. The wide variation within the two association groups accounts for this lack of consistency.

Because of these variations, the schools were-regrouped on the basis of the average percentage of time that the junior-college teachers were assigned to junior-college classes in-

the groups, so it will be conceded that, even within the groupings shown in Table 2, there are extreme variations so far as individual teachers are concerned. The tabulation in Table 3 has the double advantage of showing the data without regard to a particular school and of having many more cases from which to draw deductions.

The inference drawn from Table 3 is that in these junior colleges the teachers with the lower proportions of time assigned to the junior-college level are better prepared, in terms of

graduate hours of credit, to teach the junior-college subjects and that they are also better prepared, in terms of all hours of credit, to teach the high-school subjects assigned to them. The

ter trained in each high-school subject taught than is the group teaching more exclusively at the junior-college level. The difference in the number of graduate hours of credit between the

TABLE 2

TEACHING TIME ASSIGNED TO JUNIOR COLLEGE IN 1940-41 AND PREPARATION OF TEACHERS FOR SUBJECTS TAUGHT FOR COLLEGES CLASSIFIED ACCORDING TO PROPORTION OF TEACHER TIME ASSIGNED TO JUNIOR COLLEGE

Percentage of Time in Junior College	Number of Colleges	Average Percentage of Time in Junior College	Graduate Hours of Credit per Junior-College Subject Taught	All Hours of Credit per High-School Subject Taught	Total Load
Below 60.....	4	49.3	29.7	48.0	15.3
60-80.....	4	67.2	20.1	37.1	16.6
Above 80.....	2	85.7	19.0	41.5	15.8
All colleges.....	10	63.6	23.7	42.1	15.9

TABLE 3

TEACHING TIME ASSIGNED TO JUNIOR COLLEGE IN 1940-41 AND PREPARATION FOR SUBJECTS TAUGHT FOR EIGHTY-EIGHT TEACHERS GROUPED ACCORDING TO PROPORTION OF TIME ASSIGNED TO JUNIOR-COLLEGE TEACHING

Percentage of Time in Junior College	Number of Teachers	Average Percentage of Time in Junior College	Graduate Hours of Credit per Junior-College Subject Taught	All Hours of Credit per High-School Subject Taught	Total Load
40.0 or less.....	30	26.3	37.8	49.1	16.4
40.1-74.9.....	24	54.9	22.2	41.8	15.6
75.0 or more.....	34	94.6	19.8	34.8	15.2
All teachers.....	88	61.8	24.3	43.8	15.7

teachers spending 40 per cent or less of their time at the junior-college level are nearly twice as well prepared per subject taught in the junior college as are the teachers teaching 75 per cent or more of their time in the junior college. The lower percentage group is also approximately 50 per cent bet-

two groups is eighteen hours, or more than one normal semester devoted entirely to that subject.

The supposition is that the marked superiority in academic preparation of the group teaching the lower percentage of time at the junior-college level arises from the fact of teaching

in fewer different departments, and this supposition heightens with a study of Table 4. In this treatment, the term "department" refers to the classification of courses ordinarily employed in colleges and universities. As will be noted in Table 4, the teachers who teach in but one department at the junior-college level have an average advantage in academic preparation of fourteen graduate hours of credit in the department in which they

the junior-college level decreases, the number of departments in which teaching is done tends to stabilize at one, and the number of hours of credit possessed by the instructor rises sharply for both the junior-college departments and the high-school subjects taught.

Pronounced increases in the size of the junior colleges included in this study will make possible an increase in the proportion of teacher time as-

TABLE 4

TEACHING TIME ASSIGNED TO JUNIOR COLLEGE IN 1940-41 AND PREPARATION FOR SUBJECTS TAUGHT FOR EIGHTY-EIGHT TEACHERS GROUPED ACCORDING TO NUMBER OF DEPARTMENTS IN WHICH JUNIOR-COLLEGE TEACHING WAS DONE

Number of Different Departments in Which Teaching Was Done	Number of Teachers	Average Percentage of Time in Junior College	Graduate Hours of Credit in Department in Which Teaching Was Done	All Hours of Credit per High-School Subject Taught	Total Load
1.....	53	49.4	34.8	45.4	16.0
2.....	27	78.5	20.4	43.1	15.4
3 or more.....	8	83.7	13.6	38.2	14.9
All teachers.....	88	61.8	24.3	43.8	15.7

teach over those teaching in two different departments and a similar advantage of more than twenty graduate hours of credit over those teaching in three or more departments.

The reader will have noted by now the relationship among the number of departments in which the teacher teaches at the junior-college level, the proportion of time taught at the junior-college level, the number of graduate hours of credit in the junior-college departments taught, and all credit in the high-school subjects taught. As the proportion of time at

signed to the junior-college level, simultaneously resulting in the assignment of the teacher to but one department in the junior college and maintaining a high level of academic preparation as measured by hours of credit. The important question now arises: How large must a junior college be before it can maintain an independent faculty teaching exclusively at the junior-college level?

Let one hypothecate a junior college offering 238 semester hours, with this offering distributed in the usual fashion among the various depart-

ments. Assuming an average section of 25 students and an average student semester-hour load of 16, it was determined, from data not presented here, that an enrolment of 675 would be required before one-department teaching programs could be provided for nearly all instructors. A faculty of the same size with the same total semester-hour offering, but with the instructors teaching between 40 and 50 per cent of their time at the junior-college level, would staff an enrolment of about 375 with the same excellence in academic training of the instructors in the departments taught. However, if, with this enrolment of 375, an effort is made to give the junior-college teachers nearly exclusive junior-college teaching programs, then there will inevitably follow a sharp reduction in the excellence of the training of the instructors in the junior-college subjects taught. The conclusion is that an enrolment of between 650 and 700 is essential before an independent faculty is justified as against an associated faculty assigned from the standpoint of academic training for the work taught. This figure excludes approximately three-fourths of the public junior colleges of the nation and certainly excludes all public junior colleges in Iowa.¹

Data not given here were used to project future enrolments in popularized junior colleges in these ten systems. None of this group of ten will

exceed an enrolment of 500 at the present junior-college level. Since this group of ten junior colleges included the three largest in the state, it is unlikely that any Iowa junior college will be able to use an independent junior-college faculty and secure the same level of academic training that would follow with the use of an associated faculty. If to this evidence concerning academic training are added other considerations, such as the relatively greater effectiveness of the associated faculty in guidance work or curriculum procedures, the advantage of the associated-faculty concept becomes quite clear.

CHANGES IN FACULTY ORGANIZATION IMPLIED UNDER 6-4-4 REORGANIZATION

Attention can now be turned to the extent of change that would follow in the practices described to this point under a reorganization to achieve complete integration of the high school and junior college. In procedures of selection of teachers, assignment to classes, and supervision, the same procedures would be used with all teachers in Grades XI-XIV without distinction based on the grade level at which they teach. Five of the ten junior colleges studied exhibited those integrated procedures, and the same procedures would automatically follow in the other five with the change from a dual-administration to a single-administration policy. Faculty meetings would cease to be separate with the institution of com-

¹ Walter Crosby Eells and Priscilla Winslow (compilers), "Junior College Directory, 1941," *Junior College Journal*, XI (January, 1941), 279.

mon faculty meetings. Of course there would remain the special group meetings, but these would not be based on the existence of a separate junior-college faculty.

The problem of the salary differentials presents more serious considerations. Whether these differentials should be maintained in the reorganized system is a question with far-reaching implications.

The abolition of salary differentials and the maintenance of a single salary schedule in Grades XI-XIV inevitably follow from the reasoning underlying the establishment of the 6-4-4 plan. The existence of the now prevalent salary differentials between high-school and junior-college teachers would be a distinct bar to the achievement of a unified faculty. The schedule could have varying salary levels based on training, experience, sex, or other classifications, but none should be based on the fact of teaching in Grades XIII and XIV as distinguished from teaching in Grades XI and XII.

Finally, assignments of classes to instructors would not be fashioned so that a relatively small number of the faculty spend a nearly exclusive proportion of their time teaching in Grades XIII and XIV, the present

junior-college level. There would be extensive dual-level teaching. If an associated faculty is to be achieved, with its concomitant advantages, including superior academic training, the average teacher at the present junior-college level will spend about 50 per cent of his time at that level, with 60 per cent as the highest average percentage allowable.

The evidence has demonstrated definite advantages for the associated or integrated faculty, with the assignments to classes made on a vertical basis. These advantages include greater academic training in the work taught at both the high-school and the junior-college levels. Assuming the use of this basis of assignments, it was found that five of the ten systems included in this study would be immediately able to staff a four-year junior college; two would be ready with the acquisition of no more than six additional qualified staff members; and three would need to follow a faculty recruiting program of two or three years' duration. It was also disclosed that reorganization is immediately feasible in three of the high-association group so far as availability of the faculty is concerned.

[To be continued]

FEASIBILITY OF 6-4-4 REORGANIZATION
IN SCHOOL SYSTEMS WITH JUNIOR
COLLEGES. II

FEASIBILITY OF 6-4-4 REORGANIZATION IN SCHOOL SYSTEMS WITH JUNIOR COLLEGES

II. HOUSING AS A FACTOR IN REORGANIZATION

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INTRODUCTION

THIS article is a summary of a section of a study made in 1944 to determine the feasibility of 6-4-4 reorganization among ten Iowa school systems maintaining junior colleges. An earlier article in the *School Review*¹ dealt with the faculty as a factor in the feasibility of reorganization. The purpose of the present article is to discuss housing as it would affect reorganization in the junior colleges studied. The basic importance of this factor cannot be gainsaid. Obviously, in discussing reorganization involving greater integration between high school and junior college, one must show that present housing facilities are adaptable or, if not, what new facilities must be provided. In addition, the effect of reorganization on the excellence of the housing facilities is pertinent. An increase in excellence of housing enhances the feasibility of reorganization.

¹ Robert White, Jr., "Feasibility of 6-4-4 Reorganization in School Systems with Junior Colleges: I. Relation of the Faculty to Reorganization," *School Review*, LIV (March, 1946), 140-47.

CURRENT HOUSING ARRANGEMENTS

In eight of the ten situations the junior college and the high school used the same building. These eight included five systems in which the three-year senior high school and junior college used the same building; one in which the junior high school, the senior high school, and the junior college were housed together; and two in which the junior college was housed with a four-year high school.

The remaining two situations, while not maintaining a separate junior-college building, could not be classified as exhibiting combined and co-operative use of the same building by the junior college and high school. In one of these the junior college was found on a definitely separate floor of the same building used by the high school. In the other situation the tendency toward separation had carried to the point that the junior college was housed with a junior high school in a relatively inadequate building rather than with the senior high school in a very new and well-equipped building. Each of these two

junior colleges was found in the independent-group classification used throughout the study.

All ten systems maintained at least nominal junior high schools, but five of these were only two-year organizations. From the point of view of this study, integration concerns itself mainly with the high school and the junior college, but one can venture the opinion that reorganization would do a service if it should reduce the number of relatively weak two-year junior high schools.

No system had made any actual housing plan looking toward the 6-4-4 plan. Some of these cities had carried through rather recent building programs, but no consideration whatever had been given to this further development.

SPECIALIZED FACILITIES

The use of specialized facilities was studied. The term as used here refers to a space provision other than a mere classroom with only seats and blackboard but without special equipment. The number of facilities in use in each school was found. In addition, the manner of their use, whether co-operative or independent, was determined. These specialized facilities were classified under five headings: (1) general offices and conference rooms; (2) specialized classrooms; (3) fixed student station provisions and their auxiliary rooms, such as laboratories, shops, or related storage-rooms; (4) physical-education and athletic provisions; and (5) other ac-

cessory provisions of a general nature, such as waiting-rooms, teachers' offices, etc. The data showing the specialized facilities available for junior-college services or needs are presented in Table 5. The classifications used in this table were made on the basis of criteria drawn from all

TABLE 5
SPECIALIZED FACILITIES AVAILABLE FOR
JUNIOR-COLLEGE SERVICES OR NEEDS IN
THREE GROUPS OF JUNIOR COLLEGES

SPECIALIZED FACILITIES	AVERAGE NUMBER AVAILABLE		
	High- Associa- tion Colleges	Moder- ate- Associa- tion Colleges	Inde- pendent Colleges
General offices and conference rooms..	5.25	2.50	1.00
Specialized classrooms	8.00	3.25	1.50
Laboratories, shops, storage-rooms, etc.	8.50	5.50	3.00
Physical-education and athletic pro- visions.....	6.50	5.50	4.50
Waiting-rooms, teach- ers' offices, etc....	15.25	10.00	7.00
Total.....	43.50	26.75	17.00

major areas of organization, as was explained in the first article of this series.

The trend of the evidence in Table 5 is consistent. The outstanding fact is that the number of specialized facilities in the independent junior colleges represents only two-fifths the number of those in the high-association junior colleges and but three-fifths of those in the moderate-association junior colleges. Such relative scarcity must place restrictions on

curriculum offerings, guidance programs, extra-curriculum activities, and other features.

Interesting corollary evidence is afforded in the value of scientific equipment. Each junior college in the state makes to the office of the state superintendent of public instruction an annual report, which includes, among other items, statements of the value of the scientific equipment on hand in each of the fields of biology, physics, and chemistry. The values

TABLE 6
VALUE OF EQUIPMENT IN THREE SCIENCE
FIELDS REPORTED BY JUNIOR COL-
LEGES IN THREE GROUPS

JUNIOR- COLLEGE GROUP	AVERAGE VALUE OF EQUIPMENT			
	Biology	Physics	Chem- istry	Total
High-association.....	\$2,762.50	\$3,700.00	\$3,937.50	\$10,400.00
Moderate-association..	1,800.00	1,300.00	2,250.00	5,350.00
Independent..	506.00	500.00	1,517.50	2,523.50

presented in Table 6 were taken directly from the official reports, which give no indication as to which schools, if any, made allowances for obsolescence. The presumption remains that all values were figured on the same basis. The high-association group had equipment with nearly two times the value of the equipment of the moderate-association group, which, in its turn, possessed equipment with more than double the value of the equipment of the independent junior colleges. These figures more than bear out the implications from the over-all study of the number of specialized facilities available.

The apparent reason for the marked superiority of the high-association and the moderate-association groups is the advantage of supporting one set of facilities and equipment rather than being forced to divide support between two sets. How large must an independent junior college be in order to enable it to support as extensive a set of specialized facilities as are now maintained by the high-association schools in this study? In a similar investigation Koos² has suggested that a separate junior college should enrol at least a thousand students to be able to maintain an equivalent set of specialized facilities. This figure is supported by indirect evidence in the present study. The high-association junior colleges are denied the use of only a negligible number of facilities. These same systems had an average combined high-school and junior-college enrolment of approximately 1,150 in 1941. These facilities would have supported the program of nearly the same number of junior-college students since the essential nature of the space provisions used, with several equalizing exceptions, is the same at both levels.

There is no evidence to suggest a remote possibility that any junior college in this study will surpass an enrolment of six hundred for some time to come. The optimum figure of between a thousand and twelve

² Leonard V. Koos, "Organizational Relationships of Junior College and High School," *Journal of the American Association of Collegiate Registrars*, XVIII (July, 1943), 399-407.

hundred seems removed from consideration for this group of junior colleges. The conclusion follows that separate housing for any of these junior colleges would afford inadequate specialized facilities even with extravagant expense.

Finally, there are potentially available to the moderate-association and the independent junior colleges specialized facilities which are not being used because of organizational arrangements. The evidence was analyzed to show the changes which would occur in each group of junior colleges if complete integration with the high school were achieved. The data presented in Table 7 show that integration would strikingly increase the adequacy of the housing facilities of the independent junior colleges which are now in systems supplied with excellent secondary-school buildings. An exceptional gain would be made in the specialized classroom and laboratory types of facilities.

In concluding this section, it can be pointed out that the high-association, the moderate-association, and the independent junior colleges ranked in that order in the number of specialized facilities available, with the high-association group having more than twice the number possessed by the independent group. This ranking is especially notable in the fields of specialized classrooms and laboratories and shops. Corresponding evidence was noted in the reported values of scientific equipment. From the standpoint of the feasibility of in-

tegration, therefore, such integration would greatly increase the adequacy of the specialized facilities in the independent junior colleges and somewhat increase their adequacy in the moderate-association group.

TABLE 7
EFFECT OF COMPLETE INTEGRATION SHOWN
BY AVERAGE GAIN AND BY AVERAGE TOTAL OF SPECIALIZED FACILITIES AVAILABLE FOR JUNIOR-COLLEGE SERVICES OR NEEDS IN THREE GROUPS OF JUNIOR COLLEGES

SPECIALIZED FACILITIES	AVERAGE GAIN IN NUMBER OF SPECIALIZED FACILITIES		
	High-Association Colleges	Moderate-Association Colleges	Independent Colleges
General offices and conference rooms..	0.75	1.75	3.50
Specialized classrooms		2.50	6.00
Laboratories, shops, storage-rooms, etc.	0.75	1.25	6.00
Physical education and athletic provisions.....			1.00
Waiting-rooms, teachers' offices, etc....	0.75	1.75	5.50
Average number of specialized facilities that would be available.....	45.75	34.00	39.00

ADEQUACY OF PRESENT HOUSING IN RELATION TO PROJECTED 6-4-4 REORGANIZATION

Procedure of projecting enrolments.—The junior college must be of some reasonable size before the integration of Grades XI through XIV into one school is consummated. The junior-college enrolments reported for 1941 from this group of schools, when con-

trusted with the enrolments in Grades XI and XII, tend to shed some doubt on the possibility of integration. There was a rather general tendency for the enrolment in the junior-college grades to be approximately one-third that of the enrolment in Grades XI and XII. Such a disparity between the numbers of students at the upper and the lower reaches of the new four-year institution would, in effect, truncate any comprehensively organized curriculum, unbalance the extra-curriculum, hamper widespread dual-level teaching, and present other disadvantages. Although a similar relationship can be found in the enrolments of the upper and the lower divisions of a number of four-year liberal-arts colleges, still the ratios reported in this study would weaken portions of the claimed advantages of a 6-4-4 reorganization.

In a specific system any investigation into the adequacy of housing in a 6-4-4 reorganization must take into account the increased popularization of such a junior college. This increased popularization would be the result of the adoption of certain features which are almost necessarily implied by reorganization. One of these, for example, could well be the adoption of a curriculum with varying facets which, operating in conjunction with an adequate guidance program, might aim to attract at least the upper three-fourths of high-school graduates. Hence the discussion must now focus on the determination of the probable enrolments in the

upper unit of the 6-4-4 reorganization. Apparently, the four grades of this unit fall into two distinct classes so far as the forecast of probable enrolments is concerned: (1) Grades XI and XII and (2) Grades XIII and XIV.

The probable enrolment in the first group, Grades XI and XII, is not so difficult to forecast since the high school had already been well popularized in all these systems. Nothing in the Census reports for either 1930 or 1940 indicates any radical change in population in these communities. In consequence it will be assumed that the enrolments in Grades XI and XII in the reorganized units will be the enrolments found in those grades immediately preceding the war years.

The probable enrolments in Grades XIII and XIV present a more difficult problem because it is undesirable to use the 1940-41 enrolments and because there were no integrations within the group to use as a basis.

A hypothesis may be used as the starting-point in endeavoring to forecast the relationship between the enrolment in Grades XIII and XIV and the enrolment in Grades XI and XII. One can visualize that a reasonably successful integrated junior college would attract 80, 80, 60, and 30 per cent, respectively, from each of the fourths of the twelfth-grade class. This would indicate the enrolment of a hypothecated Grade XIII. A further hypothesis will assume that the reten-

tion between Grades XIII and XIV is 65 per cent. Finally, it will be assumed that the enrolment in Grades XIII and XIV will be increased by 25 per cent by enrolment of nonlocal students. This last assumption is based on the fact that the average junior college in this study received slightly better than 25 per cent of its enrolment from outside the local high school. The total effect of these assumptions is to forecast an enrolment in Grades XIII and XIV that will be approximately 60 per cent of that in Grades XI and XII.

These are in the nature of assumptions because there has to be judgment as to the effect of the reorganized curriculum, guidance program, and other features in increasing attendance at the present junior-college level. The date for which enrolments are being forecast is not that of the introduction of the reorganization but rather that after the new institution has been well established, possibly after a period of five or ten years.

Although the nature of the curriculums found in these junior colleges is such that curriculum revision, along with other procedures, affords large opportunity for popularization, the situation probably could not be altered within five or ten years so that the proportion of students in Grades XIII and XIV would be more than double the proportion in 1940-41. This reasoning would serve to limit the proportion after reorgani-

zation to somewhere between 55 and 70 per cent.

Actual enrolment figures from integrated institutions in 6-4-4 systems are pertinent. Data were obtained on the enrolments in 1940-41 for Grades XI through XIV in ten publicly controlled four-year junior colleges existing in the country as part of a 6-4-4 plan. The average percentage that enrolment in Grades XIII-XIV, inclusive, was of the enrolment in Grades XI-XII was 78.4; while the average percentage that enrolment in Grade XIV was of the enrolment in Grade XIII was 64.1. The first of these figures is larger than should be used in projecting enrolments in potential institutions in the Iowa colleges studied, for large numbers of nonlocal students and the structures of the districts affected some of the enrolments. The figure of 64.1 per cent lends support to the 65 per cent used in the hypothecated enrolment developed earlier in this study.

It was also found that, in the case of the youngest integrations, the percentage which the enrolment in Grades XIII-XIV is of the enrolment in Grades XI-XII is much smaller than the corresponding percentages in the older institutions. Apparently the four-year integrations increase the proportion of the enrolment in the upper two years as the institutions become firmly established.

Taking into consideration the defensibility of the specific assumptions made in developing the enrolment of the hypothetical integration, the evi-

dence from other integrated systems in the nation, and the reasoning developed earlier, there is support for acceptance of a probable enrolment in Grades XIII and XIV equaling 60 per cent of the enrolment in Grades XI and XII in the possible four-year junior colleges in these Iowa situations.

In projecting future enrolments in possible integrations, actual enrolments in the various grades were used as a basis. The enrolment in the four-year high school or the lower unit would be the total of the enrolments in Grades VII-X, inclusive. The enrolment in the four-year junior college, or the upper unit, would be the normal enrolment of Grades XI and XII preceding the war years plus 60 per cent of that figure.

Ability of housing facilities to support projected enrolments.—Housing for the elementary grades in a reorganization was not included in this study, since all these systems were maintaining six-year elementary organizations and there was no question of crowding. The problem becomes that of fitting the enrolments for the two upper units into the available housing or of indicating the housing additions that would be necessary. At the time of the survey, data concerning the capacities of the various buildings in the systems were secured and analyzed. In the original study more or less extensive analyses were made of the ability of the housing in each system to support the projected enrolments

in a 6-4-4 reorganization. In this article, such treatment will be accorded two systems, so as to afford the reader a sample of the procedure, and the situation in the remaining eight systems will be briefly summarized.

Albia at present uses a 6-3-3-2 system, housing its junior high school in a building with an indicated capacity of 400. The senior high school and the junior college are housed in a building also capable of accommodating 400. The projected 6-4-4 enrolments include 386 for the high school and 401 for the four-year junior college. The larger size of the upper unit derives from a large rural group.

If the present buildings were used, Grade X could be moved from the present senior high school to the junior high school building. General shop and home economics are not now offered in the junior high school, so that the addition of these specialized facilities would be necessary with the moving of Grade X to that building. Type-writing is not now made available for tenth-grade students in the high school. Such facilities would not only be used by the tenth-grade pupils but could also be used to enrich the curriculum of the other grades in that school, which at present offers a traditional seventh- and eighth-grade course of study and a restricted first high-school year to the ninth-grade students.

The figures on projected enrolment and on the capacity of buildings would indicate that a relatively simple re-

assignment of Grade X to the present junior high school and the addition of shop and home-economics facilities would provide the housing necessary for a 6-4-4 reorganization. It should be pointed out, however, that the present junior high school is housed in an old building erected in 1879. The present senior high school and junior-college building is not fully modern and has the smallest number of specialized facilities of any of the buildings which house an associated junior college in this entire group. The goal in Albion should be the construction of a new building to house the new four-year junior college and the removal of the new high school into the building now used by the senior high school and junior college. The fact of the unsuitability of the present junior high school building, however, does not hamper reorganization, since it is equally as unfitted for the present junior high school as it would be for the new unit of Grades VII-X.

Mason City's projected enrolments in a 6-4-4 reorganization are 1,016 for the four-year junior college and 1,502 for the four-year high school. Capacities in the present buildings are 1,100 in the present high-school and junior-college building and 1,500 in two modern junior high school buildings. Specialized facilities would be adequate for the four-year high school, divided into two schools, in the present junior high school buildings, where a comprehensive junior high school program is now being offered. In Mason City, 6-4-4 re-

organization is readily feasible so far as housing is concerned.

No housing readjustments would be necessary in Boone since the three upper units in a 6-3-3-2 system are now housed in the same building and the indicated capacity of the building would support the two four-year units. In Burlington the present senior high school and junior-college building would easily maintain the new four-year junior college, while the present, modern junior high school buildings would be slightly strained by an excess enrolment over capacity of approximately fifty students. This excess could be offset by a staggered arrangement with near-by elementary schools for a portion of the seventh-grade pupils or by moving a small group of tenth-grade students, moving on a particular block program, to the junior-college building. Integration could be accomplished in Centerville only by setting up a 6-3-5 pattern with the two upper units in separate buildings. At present, Centerville is on the 6-2-4-2- basis. In Creston the two upper units in a 6-4-4 plan could be accommodated in the one present building, which is fully modern. Fort Dodge could maintain the projected enrolment in the four-year high school in its present junior high school building, while the present senior high school and junior-college building would be ample for the four-year junior college. Marshalltown presented a particular problem in that it now operates on the 7-2-3-2 pattern, and all study failed to establish the ability

of present housing to maintain a 6-4-4 plan. However, retention of the seven-year elementary school would allow a 7-3-4 organization, with the two upper units located in separate, adequately equipped buildings. Muscatine was also unusual in that it maintains a junior college and a junior high school in an obsolete building, while the senior high school uses a very modern building. Muscatine's housing is decidedly feasible for an associated junior college, and a reorganization to achieve integration, with the concomitant projected enrollments, could be supported only by adopting a 6-3-5 pattern. Washington's housing is readily feasible for a 6-4-4 reorganization.

CONCLUSION

Among this group of Iowa systems the feasibility of a 6-4-4 reorganization from the standpoint of housing was considerably enhanced by the evidence demonstrating the signifi-

cant increase in specialized facilities available for junior-college needs as the degree of association with the high school increased. There is no indication that any of these junior colleges will reach a size which will give them the advantages of specialized facilities or housing on an independent or separate basis that they would enjoy in association or through integration with the immediately lower secondary grades.

Eight of the group of ten now have housing readily feasible for establishment of the four-year junior college. Two of the group would be obliged to establish a five-year upper unit, which would not have all the advantages of the 6-4-4 reorganization but which would bring more of the advantages of integration than at present exist in those two systems. The building facilities found in this group of schools are generally feasible for a 6-4-4 reorganization.

[To be concluded]

FEASIBILITY OF 6-4-4 REORGANIZATION IN SCHOOL SYSTEMS WITH JUNIOR COLLEGES

III. THE GUIDANCE PROGRAM AS A FACTOR IN REORGANIZATION

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INTRODUCTION

THIS is the third and last in a series of articles drawn from a study made in 1944 to determine the feasibility of 6-4-4 reorganization among ten Iowa school systems maintaining junior colleges. Readers of the previous articles¹ will recall that these ten systems were classified into three groups on the basis of the degree of association evidenced between the junior college and the local public high school. These groups—the high association, the moderate-association, and the independent groups—included four, four, and two systems, respectively. The major questions of the present degree of integration and the feasibility of further integration leading to a culminating 6-4-4 organization were analyzed with reference to six major areas of organization: housing, administration, faculty, curriculum, guidance, and extra-curriculum. The present article is a summary of the evidence and implications found in the area of guidance programs.

The data secured on guidance personnel included title, grade level of work in guidance, location of offices, and amount of time freed for guidance. Evidence was also secured on the transfer and use of high-school records by junior-college guidance personnel, the level at which students planned junior-college programs of studies, and the extent and character of junior-college promotion with high-school students. Data concerning the students' degree of success in the programs of study and concerning their marks were drawn from the transcripts of junior-college graduates of 1942.

CURRENT ORGANIZATION OF GUIDANCE PROGRAMS

Personnel.—All the junior colleges had at least one official giving guidance at the junior-college level only. The average amount of time freed for this work by this official, generally known as the "dean," was 38.3 per cent, ranging from 60 per cent in two schools to 20 per cent in two schools. The average amount of time freed, by groups of colleges, was 30.8 per cent in the high-association group, 42.5 per cent in the moderate-association

¹ Robert White, Jr., "Feasibility of 6-4-4 Reorganization in School Systems with Junior Colleges: I and II," *School Review*, LIV (March and April, 1946), 149-17, 222-39.

group, and 55.0 per cent in the independent group. Two junior colleges reported the use of a guidance director responsible for the organization of a guidance program covering both the high school and the junior college. Each indicated that 10 per cent of his time was spent on guidance at the junior-college level. In one of the schools the responsibility for advisement of the junior-college students was divided among five advisers, with a time allocation of 10 per cent each.

It was discovered to be typical practice in the high-association schools for the high-school principal to register incoming students. This process includes a certain amount of advisement and has advantages stemming from the principal's previous knowledge of the registrant.

All the high-association junior colleges reported that one administrator was responsible for the guidance program at both levels. In all but one of the other schools the separate junior-college administrator was responsible for the program.

Transfer of records.—Inquiry was made regarding the extent to which use of the high-school records, including records of scholarship, educational and vocational planning, personality, attendance, discipline, health, and anecdotal material, was made available to the junior-college guidance functionary. Great extremes in practice were noted. In one situation, where separate high-school and junior-college offices were located in the same building, the high-school office

made up formal transcripts of credits for its graduates entering the junior college and sent these, with no other accompanying records, to the junior-college office on the second floor. In other words, this particular junior college had no more records for the graduates of its associated high school than it had for graduates of a high school miles away. In another instance, even the transcript of credits was not supplied, and the junior-college officers accepted the student's oral statement as to his record. At the opposite extreme, the guidance officer worked with a junior-college student in the same office that he had used when he had worked with this student at the high-school level and thus had access to all former records in an active file.

The most typical practice, noted in six junior colleges, was the transfer of scholarship records only. Three colleges reported a transfer of complete records, and in one there was no transfer of any records. Of the four high-association schools, three reported a transfer of complete records and one transferred scholarship records only. In the four moderate-association colleges, only scholarship records were transferred. The two independent junior colleges were divided, with one receiving no high-school records and the other using scholarship records only.

Grade level of planning junior-college courses.—The grade level at which the junior-college course of study is planned is significant. To defer plan-

ning until the student reaches Grade XIII deprives the student of the operational effect of the guidance program. Five of the junior colleges indicated that the student planned his program at the beginning of Grade XIII, and the other five reported that such planning occurred during the time the student was in Grade XII. Three of the high-association schools were included in those in which planning was done

junior college could be promoted with high-school students were defined: (1) Home-room advisers plan junior-college program. (2) Home-room advisers promote junior-college attendance. (3) Assemblies discuss and promote junior-college attendance. (4) High-school personnel organization makes contacts with parents on behalf of junior-college attendance. (5) High-school personnel organization, exclud-

TABLE 8

FREQUENCY OF USE BY HIGH SCHOOLS OF VARIOUS PROMOTIONAL METHODS ON BEHALF OF JUNIOR-COLLEGE ATTENDANCE

PROMOTIONAL METHOD	FREQUENCY REPORTED IN JUNIOR-COLLEGE GROUP			
	High-Association	Moderate-Association	Independent	Total
Home-room advisers plan junior-college program	1			1
Home-room advisers promote junior-college attendance	3	2		5
Assemblies held on behalf of junior-college attendance	4	4	1	9
High school makes contacts with parents	3	2		5
High school interviews students	3	2	1	6
Total	14	10	2	26
Average number of methods used	3.5	2.5	1.0	2.6

during Grade XII, along with two from the moderate-association group.

Promotion of the junior college with high-school students.—Since the giving of information is part of a guidance program, promotion of the junior college with high-school students is a legitimate part of the guidance program. The more vigorously the high-school organization promotes the junior college, the greater is the presumption of integration.

Five possible methods by which the

ing home-room advisers, interviews students on behalf of junior-college attendance. Data on the various methods employed are presented in Table 8. It will be seen that the most commonly used method was the presentation of assemblies, reported by nine of the ten organizations. In only one school did the home-room teacher help the student plan his junior-college program.

Classification of guidance programs.

—All administrators in the high-

association schools maintained that their junior-college guidance programs were part of a unified program including the high school; all those in the moderate-association group reported that their programs worked in voluntary co-operation with the guidance programs in the high school; and the administrators in the independent schools listed their programs as inde-

respect to degree of integration, and the independent group ranking last.

EVALUATION OF VARIOUS TYPES OF GUIDANCE PROGRAMS

Retention.—One measure of the relative efficiency of student personnel programs would be the degree of retention between Grades XIII and XIV. The data used for showing this

TABLE 9
COMPENDIUM OF DATA ON VARIOUS FEATURES OF INTEGRATIONAL ASPECTS OF GUIDANCE PROGRAMS IN THREE GROUPS OF JUNIOR COLLEGES

FEATURE OF GUIDANCE PROGRAM	JUNIOR-COLLEGE GROUP		
	High-Association	Moderate-Association	Independent
1. Average percentage of time freed for dean.....	30.8	42.5	55.0
2. Percentage having one administrator responsible for program at both levels.....	100.0	25.0	
3. Transfer of records:			
a) Complete.....	75.0		
b) Scholarship only.....	25.0	100.0	50.0
c) None.....			50.0
4. Average grade level at which junior-college programs of study are planned.....	12.25	12.50	13.00
5. Average grade level at which junior-college attendance is planned.....	11.25	11.75	12.50
6. Average number of promotional methods used on behalf of junior-college attendance with high-school students.....	3.5	2.5	1.0

pendent plans. This self-placement in degree of integration can be tested by reference to the compendium of the data describing the characteristics of the various programs presented in Table 9. Apparently the self-classifications made by the administrators are approximately correct. Accordingly the treatment of the rest of this problem will consider the high-association schools as having the most nearly unified guidance programs at the two levels, with the moderate-association junior colleges ranking second with

degree were the percentages that the Sophomore class enrolments in September, 1941, were of the Freshman class enrolments in September, 1940. These years were selected as the last relatively normal years. A longer span was not used because some of the junior colleges had made fundamental changes in organization as late as 1939. These data are presented in Table 10. The basic feature of Table 10 is the superiority of the high-association colleges over the other groups. Refinement of the evidence showed that

variations in the proportions of enrolment coming from nonlocal high schools did not affect this result.

The relative efficiency of the guidance program has an effect on the degree of retention because an effectively functioning organization will meet students' problems before they become critical and will also have an initial effectiveness with the student and thus reduce the number of such problems. It must be kept in mind, however, that curriculum organization will have an intimate relation to the guidance program. For example, a limited offering will make it impossible for the guidance personnel to advise the transfer of an unsuccessful student to other courses.

Success in change of nature of program.—The degree of success or lack of success with which students change the nature of their programs in the junior college as compared with the programs that they carried in high school throws some light on the relative effectiveness of guidance programs. These data were studied only for those junior-college graduates who were also graduates of the local high school.

An average mark of below 2.0, or C, was arbitrarily assumed to indicate a lack of success. For each graduate the investigator formulated a description of the dominant characteristics of both the high-school and the junior-college programs of studies. For example, one high-school program might be described as "commercial major"; another, as "general, with emphasis

on mathematics and science." If the first program was followed by one including no courses in commerce at the junior-college level, the nature of the course was considered as having been changed. If the student following the second program took the pre-engineering course in junior college, he was considered as not having changed the nature of his course in junior college.

TABLE 10
PERCENTAGE THAT ENROLMENT IN GRADE XIV IN SEPTEMBER, 1941, WAS OF ENROLMENT IN GRADE XIII IN SEPTEMBER, 1940, IN THREE GROUPS OF JUNIOR COLLEGES

Junior-College Group	Enrolment in Grade XIII in September, 1940	Enrolment in Grade XIV in September, 1941	Percentage of Retention
High-association.....	499	238	47.7
Moderate-association.....	233	80	34.3
Independent...	118	45	38.1
Total.....	850	363	42.7

If the average mark in high school was 1.9 and in junior college was 2.4, the program was classified as unsuccessful in high school and successful in junior college.

There are eight possible combinations of these criteria, ranging from the same program carried successfully in both high school and junior college to two different programs, both carried unsuccessfully in high school and junior college. Certain of these combinations are indications of inferiority or of excellence in the guidance program, while the remainder are of no

particular significance in this regard. Table 11 presents the evidence for this group of schools. A salient fact from Table 11 is the large proportion of students in the groups other than the high-association group who had had unhappy experiences in changing the nature of their programs at the junior-college level.

cating a reportable difference in the average mark.

This evidence, presented in Table 12, indicates that the percentage of students earning higher marks in junior college than they earned in high school was greater in the high-association group than the corresponding percentage in either of the other two

TABLE 11
SUCCESS IN JUNIOR COLLEGE COMPARED WITH SUCCESS IN HIGH-SCHOOL
PROGRAM FOR STUDENTS WHO CHANGED PROGRAMS IN
THREE GROUPS OF JUNIOR COLLEGES

JUNIOR-COLLEGE GROUP	NUMBER OF STU- DENTS STUDIED*	EXCELLENCE IN CHANGE		DEFINITE INFERI- ORITY IN CHANGE		PROBABLE INFERI- ORITY IN CHANGE	
		Number of Stu- dents	Percent- age of Stu- dents	Number of Stu- dents	Percent- age of Stu- dents	Number of Stu- dents	Percent- age of Stu- dents
High-association.....	74	4	5.4	4	5.4	9	12.2
Moderate-association.....	38			1	2.6	13	34.2
Independent.....	17	1	5.9	4	23.5	4	23.5
Total.....	129	5	3.9	9	7.0	26	20.2

* All graduates of class of 1942 who were also graduates of the local public high school.

Success as measured by average marks.—The average mark of the student in his junior-college program as compared with his average mark in high school is a further measure of degree of success. The procedure here consisted in averaging all high-school marks for each student and comparing that figure with the average of all his junior-college marks, the latter being weighted in accordance with the semester-hour values of the courses. The point scale of 4 for a mark of A, 3 for a B, etc., was used, and a difference of 0.3 was selected as the point indi-

groups. The difference is much more outstanding, however, in the percentages of students earning lower marks in junior college as contrasted with their high-school marks. The proportion of these unsuccessful situations in the high-association junior colleges is a sixth that found in the moderate-association schools and about a fourth that of the independent colleges. Nine-tenths of all students in the high-association group earned the same or higher average marks in junior college compared with those which they earned in high school. The cor-

responding figure is only 39.5 per cent in the moderate-association group and 64.7 per cent in the independent group. Three-fifths of all students in the moderate-association junior colleges lost in average mark, and nearly three-eighths of those in the independent group did likewise.

Further refinement of these data by dividing the students into two groups

college students and does other advising, the proportion of his time spent on these functions was determined, along with that of other officers. Comparison of the total allotments of time with the junior-college enrolment resulted in an average student-adviser ratio of 459.9 for the high-association group, 151.3 for the moderate-association group, 123.5 for the independent

TABLE 12

COMPARISON OF AVERAGE MARKS EARNED BY STUDENTS IN THREE GROUPS OF JUNIOR COLLEGES WITH AVERAGE MARKS EARNED BY SAME STUDENTS WHILE IN LOCAL PUBLIC HIGH SCHOOL

JUNIOR-COLLEGE GROUP	STUDENTS MAKING HIGHER MARKS IN JUNIOR COLLEGE		STUDENTS MAKING SAME MARKS IN JUNIOR COLLEGE		STUDENTS MAKING LOWER MARKS IN JUNIOR COLLEGE		TOTAL	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
High-association.....	28	37.8	39	52.7	7	9.5	74	100.0
Moderate-association.....	6	15.8	9	23.7	23	60.5	38	100.0
Independent.....	4	23.5	7	41.2	6	35.3	17	100.0
Total.....	38	29.5	55	42.6	36	27.9	129	100.0

with average high-school marks above or below 2.7 shows the same trends operating in both groups. Thus the implications of this evidence are not affected by variations among the various groups in the average high-school marks of their junior-college students.

Ratio of number of students to advisers.—A tabulation was made of the officers performing guidance functions at the junior-college level and the percentage of time allocated to this work. In the high-association junior colleges, where the high-school principal typically registers incoming junior-

group, and 269.2 for all groups combined. Thus the high-association group had an average student-adviser ratio of more than three times that of the other groups. This result indicates an economy, not only in cost, but also in efficiency, since, on the basis of the evidence given up to this point, the organization represented by this figure has produced more effective results than have the other organizations.

Summary of measures of evaluation.—The high-association junior colleges have the highest degree of retention, have the most successful student pro-

grams in junior college as compared with the high-school programs for the same students, and are the most economical and efficient in student-adviser ratios. There is little significant difference between the other two groups on these measures. This lack of difference between the moderate-association and the independent groups suggests that the term "voluntary co-operation," as applied to the relationship of the high-school and junior-college guidance programs by the moderate-association junior-college administrators, may be a misnomer. Voluntary co-operation, to be genuinely effective, must be thoroughly implemented. The problems of guidance at the two levels should not be left on this opportunistic basis. The evidence shows that a definitely unified guidance program is necessary to bring the desired results.

The reason for the superiority of the unified guidance programs may come from the greater efficiency in guidance resulting when personnel and records move with the student into junior college. This practice enables advisement based on previous experiences, whereas a new guidance organization must live through an exploratory period, when it is not able to operate so definitively with the student. The student has completed much of his two-year junior-college program before the separate guidance organization attains the level of knowledge and judgment regarding him reached by the guidance organization operating with

him in his Junior and Senior years of high school.

REORGANIZATION AND THE GUIDANCE PROGRAMS

The high-association schools already approach the major elements of a unified guidance program. Two of them had a guidance director operating in Grades X-XIV. In a complete integration, these schools would need to refine the duties of this official, expand his or the associated counselors' activities at the junior-college level, and abandon the assignment of any guidance officer to Grades XIII and XIV only. The other two high-association schools have established a large number of unified guidance practices so that the basic philosophy of integration in guidance would be readily accepted. They need the creation of a guidance officer with vertical responsibility as the most important single step remaining before guidance integration—a step which will not require an additional officer since it can be accomplished by a reassignment of duties using the present assistant principal and junior-college dean.

In summary, two of the high-association junior colleges now have a guidance organization immediately suitable for incorporation into a 6-4-4 reorganization. Reorganization, from the same standpoint, is readily feasible in the other two high-association schools although not to the same extent.

The moderate-association guidance

programs are more feasible for reorganization than are those of the independent schools since the former already enjoy combined housing. The evidence has demonstrated that voluntary co-operation in the guidance programs does not achieve significantly higher results than do the independent guidance programs. Unification of the guidance programs at the two levels will eventuate only under the establishment of the single-administration pattern unless the superintendent were to remove guidance from the ordinary scope of administration and assign responsibility for guidance at both levels to one official. In addition, these schools must develop a guidance personnel operating at both levels and must introduce planning for Grades XIII and XIV as an integral part of the guidance program in the lower secondary-school grades.

The same description applies to the guidance programs of the independent

group except that these schools must overcome the additional hurdle of changing from separate to combined housing. The moderate-association and the independent groups of junior colleges are not now organized to perform the guidance function in a reorganized four-year junior college, but, when the advantage of the unified guidance programs is reviewed, the need and thus the feasibility of unification in guidance in these six schools is heightened.

In conclusion, we find once again that, with respect to guidance, the degree of feasibility for reorganization presents a pattern, in which the high-association schools are almost immediately ready for reorganization, the moderate-association colleges are the second in readiness, and the independent junior colleges are the least ready. This same pattern was found in most of the other areas of organization studied.

Curriculum Integration in Iowa Junior Colleges

ROBERT WHITE, JR.

THE MATERIAL in this article is summarized from a portion of a study made in 1944-45 to determine the feasibility of a 6-4-4 reorganization among ten Iowa school systems maintaining public junior colleges. The purposes of the study were to ascertain the present degree of integration between junior college and high school, the prospects of further integration, and the feasibility of a 6-4-4 reorganization on the basis of the evidence found. The ten systems studied were Albia, Boone, Burlington, Centerville, Creston, Fort Dodge, Marshalltown, Mason City, Muscatine and Washington. On the basis of criteria developed in six areas of organization, namely, administration, housing, faculty, curriculum, extracurriculum, and guidance, it was found possible to classify these junior colleges into three groups according to the degree of integration between junior college and high school. These groups were named as the high-association, moderate-association, and independent groups.

Where the data were affected by the abnormal wartime conditions, evidence was secured for the year 1940-41. The sources of evidence for the present article were the catalogs of the junior colleges; the daily programs for both

the high school and junior college, with class enrollments entered; interviews with the administrative officials; and the transcripts of all graduates in the class of June 1942 in the ten junior colleges.

This article will present first a consideration of the salient features of the curriculum as comprehended to include grades 11 through 14. This will be followed by a discussion of the integration or articulation of the junior college and high school curriculums found in the ten systems studied. Then there will be a presentation of the steps which could be taken within this group to achieve further integration. The article will conclude with an analysis of the feasibility of a 6-4-4 reorganization as affected by the curriculum.

The Integrated Curriculum

Before making a presentation of the steps necessary for these ten junior colleges to take in achieving curriculum integration, it is essential to show something of the nature of the integrated junior college curriculum. This study has assumed the desirability of the increased popularization of the junior college. Consequently, it is in order to take a brief look at the curricular aims of the popularized junior college.

A significant statement on these, doubly pertinent because of the curriculum characteristics later described for this particular group of junior colleges, can be taken from Koos:¹

ROBERT WHITE, JR., is director of Burlington Junior College, Iowa. He has recently completed a study of the feasibility of changing ten Iowa junior colleges to the 6-4-4 plan of organization, as part of the work for his doctorate at the University of Chicago under Professor L. V. Koos, outstanding proponent of the much-debated 6-4-4 plan. This article discusses the curricula found in the ten Iowa institutions which Dr. White studied and the changes in these curricula which would be necessary if a 6-4-4 plan of organization were adopted by the colleges.

¹ L. V. Koos, "Significant Trends in the Curriculum at the Junior-College Level," *General Education: Its Nature, Scope and Essential Elements*, William S. Gray, Editor (University of Chicago Press, 1934), pp. 105-06.

Considerable progress has been made toward the clarification of purposes appropriate to the curriculum of the first two years. . . . This clarification is bringing increased emphasis on exploration and orientation, broad general education and the intimate articulation of high school and junior college years; it is stimulating the emergence of purposes like the rounding out of general education during these years, the horizontal unification of education, and provision for students not going on to levels beyond the junior college years; and it is recommending for subordinate rôles the traditional purposes of preparation for advanced work, the beginning of specialization, and selection for higher levels with which the first two groups of purposes just named are in at least partial conflict. . . .

In a recent monograph of the California Society of Secondary Education, Ricciardi and Harbeson make a statement aptly summarizing present thinking on the primary aims of the junior college:²

The primary aims of the junior college are three in number: (1) To train the student adequately to adjust to the needs of an ever-changing environment through a program of general education; (2) to provide the academic prerequisites for specialization or professional study for such students as are preparing to transfer to the university; (3) to provide a program of terminal or non-university education which will provide for effective functioning in the world of business and industry on the part of such students as do not contemplate a transfer to the university.

The student of the field will agree that these aims have wide acceptance among writers on the junior college curriculum.

In another statement, Harbeson has postulated a series of significant curricular steps for the popularized junior college, including, among others, the admission of a number of twelfth grade students to junior college work, the preparation of a core of general education, emancipation from the domination

and direction of higher education, and a refusal to abandon the university-preparatory function of the junior college.³

No consideration of the junior college curriculum may conclude without reference to the problem of overlapping or duplication of content between the high school and junior college years. For present purposes such comment is importantly more significant as one notes the traditional nature of the curriculums reported for these junior colleges under study. The classic statement on this point is that by Koos, and his conclusions have pertinency not only to the nature of the junior college curriculum as such but also to the extent of integrating procedures which should receive adherence. It will be recalled that he showed that the compulsion arising from the staggering waste of time through duplication is toward inclusion of the junior college years in a coherent plan of secondary education which will bring the courses on the two levels and those presenting them into frequent and intimate contact.⁴

The nature of the junior college curriculum as now defined to this point calls for the offering of a pattern of required, vocational, general elective, and special-interest courses which will integrate with and climax the pattern of the entire secondary school period. Of particular interest will be the extent of the common or generally required work. The indications from both present practices and thinking are that the prescription of time in these common courses will increase over practice as

² Nicholas Ricciardi and John W. Harbeson, "Principles of Junior College Curriculum Study," in *A Study of Student Personnel Work and of Curriculum in California Public Junior Colleges*, Monograph No. 4 (California Society of Secondary Education, Berkeley, 1942), p. 43.

³ John W. Harbeson, "Postwar Planning in the Junior College," in *Higher Education in the Postwar Period* (University of Chicago Press, Chicago, 1944), pp. 76-83.

⁴ Leonard V. Koos, *The Junior College Movement* (Ginn and Co., Boston, 1925), pp. 310-12.

exemplified in the group of schools studied. For example, the pattern in Pasadena Junior College, a four-year institution, prescribes more than a half of the student's time in grades 11 and 12 to these common courses with a following decrease to less than a sixth of the time in grades 13 and 14. The recent proposals of the Educational Policies Commission, *Education for All American Youth*, stipulate common learnings blocking out two-thirds of the student's time in grades 7-10, one-half in grades 11-12, and one-third in grades 13-14. These proposals are of import not only to the junior college curriculum as such but also to the integrated curriculum, since the Commission avows its adherence to the educational advantages of the 6-4-4 plan.⁵

Fitting this type of junior college curriculum designed for the popularized junior college to the particular requirements of integration leads to the characteristics of the integrated junior college curriculum as described in the following unamplified statements:

1. The aims of this curriculum are preparation for university, vocational training, development of special interests or talents, and the completion of the period of formal, general education.

2. This curriculum will be administered by the same officers as administer that of the preceding grades, preferably grades 11-12, and these officers will institute proper coordinating procedures.

3. There will be a pattern of courses bearing a definite sequential relationship, both as to nature of the courses and the amount of time prescriptions, with the other secondary grades.

4. Implied as receiving attention in the preceding statements, but worthy of special note, the unnecessary repetition of course material will be eliminated.

5. Provision will be made to allow substantial numbers of students of grade 12 to take some college level courses.

⁵ *Education for All American Youth*, Education Policies Commission Report (National Education Association, Washington, D. C., 1944), pp. 171-338.

Curriculums of the Ten Junior Colleges

Administration. In five junior colleges, the same officer is responsible for the administration of the curriculum in both the junior college and the high school. All four of the high-association group of schools are included in these five. (Note: the high-association group included four of the ten; the moderate-association, four; and the independent, two.) In the other five a separate officer is responsible at each level.

Coordinating procedures. Comprehensive procedures for coordinating the two curriculums were reported from only one system, Fort Dodge, with four other systems reporting a significant coordinating procedure in one department each.

Aims. A survey of the published statements of aims found in the ten junior college catalogs showed that seven of the ten junior colleges gave their single major objective to be that of giving courses preparing students for entrance into the senior college liberal arts or professional courses. The remaining three included the offering of general or terminal education within their statements of aims, although for one of these three it was impossible to find substantiation of such an aim in either the actual offering of courses or student-takings.

Type of curriculum offerings. The courses listed in the ten catalogs were counted by semester-hour credit and assigned as liberal arts or preprofessional, education, commercial vocational, or "all other" courses. The first group, of course, is the typical university preparatory program. In the last group, "all other," would be included any engineering, vocational, or semiprofessional work, home economics, art, music, etc. The education courses

were almost entirely part of the two-year training program for rural and small town school teachers.

The average total offering was 149.7 semester hours. Of this, an average of 3.1 hours lay in the "all other" field, 6.6 in commercial vocational, and 13.9 in education, while 126.1, or better than five-sixths of the total, was classified as liberal arts or preprofessional. Only two schools offered more than eight hours of work in commercial courses, while six offered no work at all in that field. Semiprofessional or terminal engineering work was offered in but one junior college. Work in home economics was non-existent.

The outstanding fact in this tabulation is the overwhelming preponderance of the liberal arts and preprofessional offerings. The major effort at articulation, on the basis of the offerings and statements of aims, would seem to be with the upper two years of the college program rather than with the upper high school years or student needs.

Required work. An analysis was made of the extent and nature of the required work in each grade from grade 7 through grade 14. It was found that there was a generally consistent step-down in amount of required work in grades 7 through 12, with the exception of a slight rise in grade 11 over grade 10. The average amount of time required in grade 12 was 20 per cent. At the junior college level, every school required at least 20 per cent of the student's time, with four requiring more than 45 per cent, so that the average for the group was 34.3 per cent of the student's time required in grade 13 and 23.7 per cent in grade 14.

Attention can be called to the nature of the required work. English is required in grade 13 in all the junior colleges, but in only three of the local high schools was it required in grade

12. Nine of the ten junior colleges required a course in speech, but there was not a single such requirement in any of the high schools. Five of the junior colleges specified a foreign language, a requirement found in none of the high schools. Not one junior college requirement was found in social science, mathematics, or science, although the local high schools maintained extensive social science requirements along with a stipulation of at least one year's work in science.

A further inarticulation with the high school curriculums is thus shown for these junior colleges, in that neither the actual percentage of time in required courses nor the nature of the specific courses required correlate with the required work of the high school grades.

Actual student courses taken. Study of the actual program of courses followed by students is significant in its ability to show the heart of curriculum operation. The basic evidence here was derived from transcripts made of the record of every junior college graduate in June 1942.

It was found that the proportion of the average actual student program not in university-preparatory courses or liberal arts courses approximated but a twelfth of his total program. In contrast, a fourth of the total student load in the local high schools was found to be in the commercial and industrial arts courses alone, leaving out of consideration art, music, home economics, etc. It was also demonstrated that more than three-eighths of the junior college students sustained a significant reduction in the proportion of their programs spent with other than basic liberal arts courses as contrasted with their high school programs.

Average high school grade. The average grade earned by students in these junior colleges while they were

in high school was 2.7, or approximately at the accepted limit of the highest third of all high school graduates. This evidence further indicates the restricted popularization.

Duplication. Without resorting to more exact methods of measuring duplication, and excluding English courses from consideration, a count of the semester hour takings by course titles indicated that about a fourth of the junior college program was taken by the student in the same courses that he had previously taken while in high school.

Comparison by Groups

Throughout the major study from which the material for this article is drawn the treatment of evidence on the basis of the three-group classification referred to above—high-association, moderate-association, and independent groups—produced generally consistent and significant trends from group to group. Usually such measures of excellence as were applied showed clear advantages for the junior colleges maintaining a high degree of association with the local high school. This was especially true in the areas of housing, faculty, administration, guidance and extracurriculum. In the present area of curriculum, the evidence is not so definite, presumably because the curriculum offerings are so generally restricted.

The high-association colleges offered a notably greater number of semester hours, showed the smallest percentage of duplication, and had significantly fewer students whose programs were materially changed in contrast with their high-school programs. The data on the average grade earned in high school by the junior college students showed that these schools had a

markedly more universal appeal to high school graduates than the moderate-association schools, although the difference was slight in contrast with the independent junior colleges. In the other fields of evidence secured there was no decidedly clear advantage to any group. The moderate-association junior colleges possessed a top ranking on none of these measures of articulation or integration and ranked significantly below the other two groups in percentage of duplication of courses found and in their appeal as measured by the average high school grade of their students.

Various devices were employed in an effort to find the single measure or group of measures which would provide a key to the extent of articulation in the curriculum practices of these ten junior colleges with that of the rest of the secondary field. The only measure which seemed to show any consistent reliability was the one which might have been expected, namely, the size of the total curriculum offering. In other words, as the total number of semester hours offered increased the other measures of curriculum integration tended to increase also.

Steps Necessary for Integration

First of all, the junior colleges in this group must restate their basic aims so that the university-preparatory function which now completely dominates their curriculums will be reduced to coordinate position with other objectives of general education, vocational training, special interest development, or other commonly accepted objectives of the junior college level. This step would indicate a desire to meet the comprehensive needs of a comprehensive student body as contrasted with the restricted needs of a

restricted student body. Only two of the ten junior colleges now state their aims in that manner or have taken any significant steps toward it in actual offering.

The next step would be the construction of a curriculum which would genuinely endeavor to implement such a statement of aims. Commercial and industrial arts or semi-engineering courses must be included in the offering. Seven of the ten junior colleges need to increase substantially their commercial offerings to afford even a modicum and only one of the ten offers anything in the field of industrial arts. None of the ten offers work in home economics. In connection with these added offerings and any others which might be considered, the present literature on the junior college contains ample suggestions regarding methods of determining need, content, and organization.

Two other steps, at least, must parallel this determination of the nature of the course offering. These are the construction of the general education program and the development of a curriculum pattern beginning preferably with grade 7 but certainly with grade 11. It is not within the scope of this article to discuss the specifics of these except as they affect integration. Definite provision must be made for these if integration is to be achieved, and the amount of time allowed in each grade for each of the major objectives of the curriculum should bear a logical relationship in grades 11 through 14. This is necessary if the curriculum in grades 13 and 14 is to serve as the conclusion to the period of general, secondary education and thereby meet the needs of its student body. One will recall the previously presented picture showing the lack of relationship to the

prescriptions in the grades below and the failure of any of them to provide for general education needs.

Another essential step is the placing of responsibility for curriculum administration throughout the upper four secondary years, including the present junior college level, under one administrator. This would facilitate the consummation of the steps listed above to a greater degree than other forms of administrative organization.

The elimination of the rigid barrier between grades 12 and 13 would be further exemplified by a significant number of students of grade 12 taking courses now found at the junior college level. Experimental evidence offers ample justification for this step. This would help enrich the individual student's program as well as further restrict the extent of overlapping.

Two other procedures, not generically part of curriculum construction or administration, but which can be demonstrated to be of striking desirability in achieving curriculum integration, are the maintenance of one unified guidance program throughout these upper four grades and the practice of dual-level teaching.

It is not necessary to institute a 6-4-4 reorganization before these steps are taken. As a matter of fact, enough of these can be taken with the single-administration junior college and high schools so that the introduction of the 6-4-4 plan would find curriculum integration an accomplished fact. A sizable portion of the distance to curriculum integration could also be accomplished by the dual-administration schools.

In advance of complete integration it would be possible to frame statements of aims applicable to present needs of these junior colleges, to study and expand the terminal offerings, to begin

developing a pattern of courses showing consistency both in amount and nature of the required work as between the high school and the junior college, to give attention to the question of general education within the junior college level, to expand the unification of the guidance program at the two levels, and to develop certain coordinating procedures which will align curriculum objectives and dissipate much repetition. The chances of success in the last two items mentioned are much less under a dual-administration pattern.

Feasibility for Reorganization

The feasibility of 6-4-4 reorganization is affected both by the present degree of integration between the two levels and by the desirability of such reorganization as measured by the evidence secured. From a general standpoint, this article has presented (1) the broad outlines of an integrated curriculum, (2) certain measures for describing particular curriculums with regard to integration, and (3) steps which can be taken to achieve integration.

Within the group of ten systems studied, it was found that two, Burlington and Fort Dodge, were ready for

complete curriculum integration. Five others possessed a moderate degree of feasibility. For the remaining three it was shown that reorganization was not now feasible without much more attention being given to development of their curriculums along the twin lines of popularization and integration and the making of such organizational changes as would facilitate that development.

This is a far different picture from that found in the other areas of organization studied. For example, so far as housing was concerned it was shown clearly that complete integration was both practicable and highly desirable in all ten systems. In no other area were less than seven systems described as feasible for reorganization. The distance to be covered in achieving integration in the curriculum is apparently greater than that in other aspects of junior college organization.

With the need for such procedures just as great as in other areas, the conclusion seems to be that these ten Iowa junior colleges must give sharply increased attention to articulation and integration within the curriculum and its operation.

Feasibility of the 6-4-4 Plan in Iowa

ROBERT WHITE, JR.

THIS ARTICLE summarizes a study of the progress and future prospects of high school and junior college integration in ten Iowa cities maintaining junior colleges.

The high school and junior college may be operated with varying degrees of integration ranging from complete independence of each other to integration into one unit, usually of a four-grade spread. This culminating integration, commonly known as the 6-4-4 plan, is now employed in a number of school systems. This study attempted to answer three questions:

What is the extent of high school and junior college integration in certain Iowa communities maintaining junior colleges?

What is the near-future prospect of further integration or of even a culminating 6-4-4 reorganization in these situations?

How feasible is such reorganization from the standpoint of the evidence found?

The Situations Studied

Ten Iowa junior college situations were studied intensively in this inquiry. Three of these—Burlington, Fort Dodge, and Mason City—comprised the three largest junior colleges in the state both under normal and under wartime conditions. Two, Albia and Washington, were junior colleges which had closed under the impact of disappearing enrollments created by the war but which planned on reopening with return to normal conditions. The remaining five junior colleges, Boone,

Centerville, Creston, Marshalltown and Muscatine, are representative of a middle group of Iowa junior colleges. Burlington, Fort Dodge, and Mason City are cities with population in excess of 20,000 while the other cities range in size from five to twenty thousand.

Plan of the Inquiry

On the basis of criteria developed for each of six areas of organization, namely, housing, administration, faculty, curriculum, guidance and extra-curriculum, it was found possible to classify these ten junior colleges into three groups based on degree of integration with the local high school. These groups were defined as (1) a *high-association* group consisting of Burlington, Fort Dodge, Marshalltown, and Mason City, (2) a *moderate-association* group consisting of Albia, Boone, Creston and Washington, and (3) an *independent* group consisting of Centerville and Muscatine.

The core of the investigation consisted of an analysis of each of the six areas of organization named above with respect to practices, certain measures of excellence, and feasibility of reorganization under a 6-4-4 plan shown for each junior college and for the groups represented. In addition, some attention was given to the financial implications of reorganization and to the opinion of various groups of persons regarding the degree of association between high school and junior college.

Procedures for Securing Data

A variety of methods was employed in securing data but every effort was

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made to gather them on the spot and from official records. A large share was supplied through schedules filled out in direct interviews. This method not only insured that all items were entered but also produced common definitions. The direct interview further aided in developing an understanding of the philosophy and climate of relations between the high school and the junior college.

Many data, such as teachers' daily programs, courses of study of students, grade enrollments, courses of study and academic preparation of teachers, were taken directly from official records. Extensive use was made of the records in the office of the State Superintendent of Public Instruction. Documents such as school papers, yearbooks, junior college catalogs, mimeographed or printed courses of study, and student handbooks proved of value. Extensive use of questionnaires was made, with several thousands of these being circulated and tabulated.

Extent of Integration

There were widely varying degrees of integration among these ten situations. As has been mentioned, it was found possible to classify the ten systems into the high-association, moderate-association, and independent groups, containing four, four, and two systems respectively. There was no instance of a complete integration among these schools; neither was either of the two independent junior colleges perfectly independent or separate.

The degree of integration between the high school and junior college in the six different areas of housing, administration, faculty, curriculum, guidance, and extracurriculum varied widely, both for the group as a whole

and within individual systems. That is, the finding of a certain degree of integration or lack of integration in one area did not afford a reliable index to the situation in other areas. The conclusion was drawn that the designation of the degree of integration in a particular high school and junior college should be based upon more than one of these areas of relationship.

Desirability of Integration

While the major purpose of the investigation was concerned with the feasibility of reorganization rather than its desirability, certain relationships between degrees of integration and results of measures of excellence necessarily affect feasibility in demonstrating its desirability or lack of desirability. Hence, the amount of desirability of reorganization becomes an important factor in amount of feasibility.

In each area studied, these relationships and implications were analyzed at length. The more important of these are summarized here in a series of enumerated statements.

1. The average high-association junior college had access to slightly more than two and a half times the number of specialized housing facilities available to the average independent junior college and to a significantly larger number than were available to the average moderate-association junior college. The moderate-association group outranked the independent group in this feature.
2. The achievement of complete integration between the high school and junior college would strikingly increase the availability of specialized housing facilities to the moderate-association and independent junior colleges.
3. The average value of the science equipment in the high-association junior colleges was twice that of the moderate-association schools which, in turn, was twice that of the independent schools.
4. The calculation of the student-administrator ratio in the junior college as contrasted with the corresponding figure for the local high school shows a better than two to one advantage for the high-association group

over the independent group, with the moderate-association group ranking in between them.

5. In the study of the location of responsibility for the performance of certain significant administrative functions, the systems operating with the junior college and the high school directly under a single administrator showed approximately a twentieth of the possible areas of administrative conflict between the two units as where these units were directly administered by separate administrators.

6. The same portion of the study educed the corollary that the more extensive concentration of responsibility for administration of the two levels in the same administrator brought more consistent administration.

7. Associated faculty procedures, of which extensive dual-level teaching is an essence, bring better prepared teachers in the subjects taught, whether the particular subject is at the high school or junior college level.

8. Associated faculty procedures, in contrast with the practice of assigning a certain teacher to a junior college program as exclusively as possible, increase the proportion of junior college faculty members in the combined faculty of the high school and junior college, with a resultant advantage in instruction to the high school, assuming that the junior college instructors are typically better trained than the high school instructors.

9. The high-association junior colleges offered a significantly higher average number of semester hours in the curriculum than did either of the other two groups.

10. The junior college graduates in the high-association group showed a notably smaller proportion of duplication in subject-matter in their programs of study than were exhibited in either of the other two groups.

11. Fewer of the graduates in the high-association group underwent a major reorientation in their programs of study in comparison with their programs in the high school than did those in either of the other two groups.

12. Other measures of desirability in the field of the curriculum failed to show consistent and significant differences among the groups of junior colleges.

13. Superiority of the guidance programs in the high-association junior colleges over those in the other groups was indicated by the measures showing (a) a higher retention of students, (b) a larger success on the part of those students who changed the basic pattern of their programs of study between the high school and junior college, (c) more success on the part of all students as indicated by a comparison of average high school and average junior college grades, and (d)

more economical and efficient student-adviser ratios.

14. In the extracurriculum, it was shown that association both induced and made possible more activities at the junior college level, especially in the fields of journalism and music, than would be the case with rigid separation of the high school and junior college extracurriculums.

15. Opinion tends to approve practices of close association or integration where they are in existence. These measures of opinion were drawn from teachers, students, and administrators.

16. The evidence indicates that an enrollment of approximately 675 is necessary before the independent or separate junior college can demonstrate equivalent effectiveness with the close association or integrated junior college in faculty, guidance program, or administration and that an enrollment of at least 1,000 is necessary before the independent or separate junior college can enjoy specialized housing facilities comparable to those of the close association or integrated junior college.

17. There is a consistent indication that organizational patterns based on voluntary cooperation do not produce the difference in results that might be expected in contrast with the clearly independent or separate organizational patterns. The strong tendency is for voluntary cooperation to produce results more in line with those found in the clearly independent situations than in those schools operating under close association. Where there were claims of voluntary cooperation within this group, the basic evidence failed to substantiate to any marked degree that the results were different from those found in the independent situations.

The statements above are all adduced from detailed evidence and analyses made in the investigation. Insofar as these ten junior colleges are concerned and with regard to the limits of the features studied, these measures of excellence present a consistency and a strength greatly enhancing the desirability and, hence, the feasibility of close association or integration.

Feasibility of Integration

Housing. So far as housing is concerned, a 6-4-4 reorganization is feasible throughout these ten situations, although in two instances adaptation of housing is possible only if the upper

unit is five grades instead of four in spread. In no system would any new building be necessary to accommodate integration even with due allowance for tremendously increased popularization of the junior college grades.

Administration. Five systems operate under an administrative pattern by which one administrator directly administers both the high school and junior college. Reorganization from the standpoint of administration is readily feasible in these five systems. The five other situations employing the dual-administration pattern must shift to the single-administration pattern before integration in administration can be achieved. A majority of administrators within each group of junior colleges preferred more integration than then existed in their situations, with a definite majority from the high-association group preferring the 6-4-4 plan. With regard to the factor of administration, the high-association junior colleges are readily feasible for reorganization, with the moderate-association and independent junior colleges less so in that order.

Faculty. In faculty, the high-association situations as a group exhibited the greatest feasibility for reorganization as measured by the criteria of present organization of the faculty and the faculty's adequacy to staff a reorganized school with allowances for greatly increased popularization. The moderate-association and independent groups show less feasibility, without a great deal of difference between them except for the markedly higher proportion of teacher-load assigned to the junior college level for the junior college faculty in the independent situations, a fact which lessens the relative feasibility for reorganization so far as faculty is concerned.

Curriculum. The investigation of the curriculum area demonstrated extensive inarticulation between the high school and junior college curriculums. The whole problem of securing the desired measures and of judging feasibility for reorganization was hampered by the restricted nature of these curriculums, dominated as they generally were by the sole objective of university preparation. The measures did show that an expanded offering was essential to greater integration in the curriculum.

The high-association schools were better situated for reorganization in the curriculum field because of possessing a more unified curriculum administration, more frequent coordinating procedures, and a larger curriculum offering. In this area, two situations, both from the high-association group, were found to be readily feasible for reorganization. Five others, comprising two from the high-association group and three from the moderate-association group, were described as moderately feasible, while the remaining three situations possessed a relatively low degree of feasibility.

The general feasibility for reorganization was the lowest in the curriculum area of any of the six areas studied.

Guidance. Based on present organization and procedures, the high-association schools are ready for almost immediate integration in guidance programs. The moderate-association group ranks next and, by a wide margin of differences, the independent schools exhibit the least degree of feasibility for reorganization in guidance.

Extracurriculum. In the extracurriculum, the high-association systems are the most ready for reorganization because they maintain unified control of the extracurriculum at both levels and had developed the greatest propor-

tion of associated activities. The moderate-association group is less ready inasmuch as these systems employed dual-control of the extracurriculums and had developed a smaller proportion of associated activities. Feasibility for reorganization in the extracurriculum is decidedly least in the independent colleges since they practiced dual-control of the extracurriculum and had had no associated activities.

Opinion. The opinion of high school students did not show much variation among the groups, although it did approve associated practices where they were in existence. Opinion as measured among junior college students, among faculty, and among administrators was in each instance most favorable to integration in the high-association group, next most favorable in the moderate-association group, and least favorable in the independent group. It was noted as generally true that the groups whose opinions were measured favored more integration than then existed in their particular situations and approved of such practices of association as then existed.

Summary. In each of the rankings of degree of feasibility for reorganization as given above, the high-association schools were most ready for achievement of a 6-4-4 integration. Gener-

ally, the moderate-association and independent systems ranked next, in that order, although in some areas, especially in faculty, curriculum and guidance, there was not much difference in degree of feasibility between these two groups.

Conclusions

There is an impressive degree of feasibility for a 6-4-4 reorganization among these ten situations, with the high-association systems now generally at the stage where a declaration of reorganization could be made and the necessary adjustments accomplished with relatively minor difficulty. The moderate-association systems would have to establish closer association in certain features before achieving reorganization. The independent junior colleges would have to undergo fundamental revision in organization in advance of reorganization.

In general, it may be said that only the catalyst of leadership or example is needed to achieve a significant number of 6-4-4 reorganizations among these schools. As a guide for such a program, it was found possible to construct procedures in each area of organization studied by which the junior college situations could achieve integration in that particular area.

